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TITLE: Method for amplifying target nucleic acids using modified primers

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INVENTOR-INFORMATION:

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CLAIMS:

What is claimed is:

1. A method for amplifying a target nucleic acid sequence contained in a target nucleic acid analyte, said method comprising the steps of:

a) contacting a sample suspected of containing said target analyte with an oligonucleotide primer under conditions such that a first nucleotide base region of said primer forms a stable hybrid with a second nucleotide base region of said target analyte, wherein said first nucleotide base region contains one or more ribonucleotides modified to include a 2'-O-methyl substitution to the ribofuranosyl moiety; and

b) incubating said sample under conditions such that said target sequence is amplified.

2. The method of claim 1, wherein said first nucleotide region of said primer includes one or more clusters of at least 4 of said modified ribonucleotides.

3. The method of claim 1, wherein said first nucleotide region of said primer includes one or more clusters of at least 6 of said modified ribonucleotides.

4. The method of claim 1, wherein said first nucleotide region of said primer includes one or more clusters of at least 8 of said modified ribonucleotides.

5. The method of claim 1, wherein each nucleotide of said primer is a ribonucleotide modified to include a 2'-O-methyl substitution to the ribofuranosyl moiety.

6. The method of any one of claims 1 to 5, wherein said primer includes one or more conjugate molecules.

7. The method of any one of claims 2 to 4, wherein said primer includes one or more conjugate molecules, and wherein at least one of said conjugate molecules is joined to said primer at a site located within one or more of said clusters contained in said first nucleotide region of said primer.

8. The method of claim 1 further comprising contacting said sample with nucleoside triphosphates and at least one nucleic acid polymerase.

9. The method of claim 8, wherein said nucleoside triphosphates are added to the 3' terminus of said primer by said polymerase.

10. The method of any one of claims 1 to 5 further comprising contacting said sample with a nuclease inhibitor, said nuclease inhibitor being other than a polynucleotide containing a ribonucleotide modified to include a 2'-O-methyl substitution to the ribofuranosyl moiety.

11. The method of any one of claims 1 to 5, wherein said target analyte is RNA.

12. The method of claim 11, wherein said RNA is ribosomal RNA.

13. The method of any one of claims 1 to 5, wherein said target sequence is

13. The method of any one of claims 1 to 5, wherein said target sequence is amplified using a polymerase chain reaction method of amplification.
14. The method of any one of claims 1 to 5, wherein said target sequence is amplified using a transcription-based method of amplification.
15. The method of any one of claims 1 to 5 further comprising detecting the presence of said target sequence, or an amplicon thereof, in said sample.